

2002 Report to the Governor on Missouri's Capacity Development Strategy

Introduction to Missouri's Capacity Development Strategy

The Safe Drinking Water Act (SDWA) §1420(c)(2) addresses the requirements of capacity development strategies developed by the State to improve the technical, managerial, and financial capacity of public water systems. The development of the State's strategy is directly related to the level of financial resources available to help pay for water system improvements. The U.S. EPA approved Missouri's Strategy September 14, 2000. If Missouri had not developed and implemented a capacity development strategy, the State would have received only 90 percent of the Drinking Water State Revolving Fund (DWSRF) scheduled allotment for FY 2001, 85 percent of its scheduled allotment in FY 2002, and only 80 percent for each subsequent fiscal year.

In developing and implementing the capacity development strategy, SDWA §1420(c)(2)(A-E) required States to "consider, solicit public comment on, and include as appropriate" five elements:

- Methods or criteria to prioritize systems [§1420(c)(2)(A)]
- Factors that encourage or impair capacity development [§1420(c)(2)(B)]
- How the State will use the authority and resources of the SDWA [§1420(c)(2)(C)]
- How the State will establish the baseline and measure improvements [§1420(c)(2)(D)]
- Procedures to identify interested persons [§1420(c)(2)(E)]

The approved capacity development strategy is included in the Appendix of this report.

SDWA Requirement to Report to Governor on Capacity Development Implementation

Section 1420(c)(3) of the Safe Drinking Water Act (SDWA) requires that *not later than two years after the date on which a State first adopts a capacity development strategy, ... and every three years thereafter, the head of the State agency ... shall submit to the Governor a report that shall also be available to the public on the efficacy of the strategy and progress made toward improving the technical, managerial and financial capacity of public water systems in the State.* Failure to report by September 30, 2002 is grounds for a twenty percent (20%) withholding from the States' Drinking Water State Revolving Fund (DWSRF) allotment.

Development of the Strategy

The responsibility for overseeing the delivery of safe drinking water in Missouri lies within the Missouri Department of Natural Resources' (MoDNR) Public Drinking Water Program (PDWP). The PDWP, directed by Jerry Lane, is a Program within the Water Protection and Soil Conservation Division, which is directed by Scott Totten. The PDWP has four sections: Permitting, Planning and Water Monitoring, Enforcement and Administration. The PDWP is further supported with staff members in the department's six Regional Offices, located in Kansas City, Springfield, Poplar Bluff, St. Louis, Macon, and Jefferson City. Implementation of the Strategy and annual reporting to the U.S. Environmental Protection Agency (EPA) involves coordination between all of the sections of the PDWP and the Regional Offices.

The Missouri Capacity Development Strategy Workgroup, an important assembly of drinking water stakeholders, began work toward developing a Capacity Development Strategy in November of 1998. Thereafter, the Workgroup reestablished itself as an Advisory Committee. In addition to the Advisory Committee members, other individuals and organizations were invited to participate in this work. An extensive mailing was conducted to solicit interest in serving with the Advisory Committee. The purpose was to form a stakeholder group that would represent the broadest possible spectrum of interested parties while at the same time respecting the need to keep the group small enough to function efficiently.

These measures, taken together, helped to ensure that the public would have multiple opportunities to learn about and provide input to the viability assessment activities.

Members and participants of the Missouri Capacity Development Strategy Workgroup/Advisory Committee include:

- U.S. Environmental Protection Agency
- Missouri Department of Health and Senior Services
- Midwest Assistance Program
- Clarence Cannon Wholesale Water Commission
- Missouri Water & Wastewater Conference
- Missouri Rural Water Association
- American Water Works Association
- National Association of Water Companies
- Missouri Public Service Commission
- Missouri-American Water Company
- Consolidated Public Water Supply District #2 of LaFayette, Johnson, and Saline Counties
- Missouri Department of Economic Development Community Development Block Grant Program
- USDA Rural Development Program
- Association of Missouri Electric Cooperatives
- League of Women Voters
- Boone County Public Water Supply District #9
- City Utilities of Springfield

- Safe Drinking Water Commission
- Missouri Association of Municipal Utilities
- Association of Metropolitan Water Agencies
- MoDNR Public Drinking Water Program
- MoDNR Regional Offices
- MoDNR Water Pollution Control Program.

The Capacity Development Strategy Advisory Committee recommended 10 elements for improving the technical, managerial, and financial (TMF) Capabilities of public water systems:

- improve water system knowledge of current and future rules and regulations,
- improve communication and trust between the US EPA, PDWP, and the water system,
- provide public education to Missouri citizens of the importance of safe water on a consistent basis,
- encourage peer resource sharing,
- encourage partnerships between agencies and systems,
- improve interagency communication for TMF Capacity related programs,
- coordinate capital resources where financial agencies can discuss innovative techniques for financing small systems capital improvements,
- establish and implement a rate setting mechanism for sustaining fiscal health of water systems,
- increase planning in rural areas, and
- develop and provide board member training and TMF Capacity materials to managers.

Implementation of the Strategy

I. Public Drinking Water Program (PDWP)

The PDWP is responsible for implementing the Missouri Capacity Development Strategy to improve the technical, managerial and financial (TMF) capacity of public water systems in the state of Missouri. The Missouri Capacity Development Strategy (provided in the Appendix of this report) was approved by the U.S. Environmental Protection Agency (EPA) September 14, 2000 and is an on-going effort to improve TMF Capacity. Continued implementation of the Strategy is required in order for the PDWP to receive the full allotment of Safe Drinking Water State Revolving Loan Funds.

In accordance with the approved Strategy, the PDWP prioritizes systems based on compliance. The first systems to receive technical, managerial, and financial capacity assistance are systems in significant non-compliance with regulatory requirements. As an initial step, a hierarchy of violation types, based on public health risk, was

developed by the PDWP. Systems are ranked according to the relative seriousness of problems and the risk they pose to human health and the environment. Prior to enforcement action and referral to the Attorney General's Office (AGO), water systems are provided a voluntary compliance process in which a Bilateral Compliance Agreement (BCA) may be formed between the system and the department. The BCA specifies actions to be taken and the time frame for the system to return to compliance. If the system does not return to compliance or show progress toward compliance, TMF assistance may be provided prior to enforcement action or referral to the AGO.

Since implementation of the Strategy, approximately 30 water systems were out of compliance with the terms of their BCAs, thus facing enforcement action. The MoDNR Regional Offices provided on-site assistance to these systems to provide technical, managerial, and/or financial assistance in an effort to help them return to compliance. Other technical assistance organization, such as Midwest Assistance Program (MAP), Missouri Rural Water Association (MRWA), and the department's Environmental Assistance Office (EAO), assisted many of the systems with technical, managerial, and/or financial assistance. Coordinated efforts between the PDWP, the Department of Economic Development Community Development Block Grant Program (CDBG), and the U. S. Department of Agriculture Rural Development Program (RD) led to many state and federally funded projects to resolve compliance problems and in some cases to form regionalized water systems with adequate TMF capacity.

The PDWP has, for the past eight years on a quarterly basis, employed the listing of persistent noncompliant systems in statewide news releases to advise the public at large of such noncompliance with drinking water regulations. It is difficult to measure the effectiveness of this mechanism, but the PDWP will continue to inform the public of the quality of service they are receiving.

To date, approximately 90% of the water systems on the initial list of non-compliant water systems have either returned to compliance and their BCAs have expired or they have ceased providing water service as a primary supplier of water (i.e., connected to nearby viable water systems or closed business).

Interagency training on Capacity Development implementation was a primary focus and continues to be a necessity as the Strategy may change. Upon implementation of the Strategy, the PDWP provided Capacity Development training to assistance organizations and the organizations have since incorporated Capacity Development into their training programs.

II. Regional Offices

The department's Regional Offices are experimenting with incorporating TMF Capacity requirements into the BCA process. In an effort to reduce the number of

systems that enter into enforcement for non-compliance, the PDWP and Regional Offices are working toward a possible improvement to the Strategy to provide on-site TMF assistance to systems prior to issuing a BCA. This effort should result in a decrease in the number of systems entering into enforcement. However, it will take time to measure the benefit from this effort.

Systems with a potential for problems meeting requirements of future regulations, as indicated by operational test data collected, also receive assistance from the Regional Offices and state and federal funding agencies. This may include technical, managerial and/or financial assistance. The PDWP collects data from water systems and provides a list of systems facing future non-compliance with upcoming regulatory requirements to the Regional Offices quarterly. Some examples of the test data collected are for disinfection by-products, radon, radionuclides, and viruses. The Regional Offices provide assistance through on-site visits, priority inspections, and training programs to the specific systems to help them meet the future regulatory requirements. One goal of the PDWP is to inform water systems of future regulatory requirements and assist them in meeting more stringent requirements before they become effective. This process has proven to be extremely effective and most of the systems have made significant progress to come into compliance with more stringent regulatory requirements they are facing.

Another goal of the PDWP is to eventually incorporate TMF Capacity assessments into the Sanitary Surveys conducted by the Regional Offices. The Regional Office staffs currently provide sanitary surveys, on-site engineering evaluations of the operational, managerial, design, and capacity components of the entire water system. TMF Capacity assessment as part of the Sanitary Survey will be beneficial to all water systems, including systems that are in compliance, in that it will improve TMF Capacity, educate systems and managers, and will encourage future compliance. The continuance of management staff meetings upon exiting the enhanced sanitary surveys will educate the managers on the necessary future planning needs and funding options available through the state and federal funding institutions.

A portion of the DWSRF set-aside funds is allocated to staff capacity development efforts in the Southwest Regional Office (SWRO) in Springfield, Missouri. Their primary duty is to establish the procedures for conducting the enhanced sanitary surveys. The procedures, when complete, will provide Regional Office engineers with all the necessary tools to evaluate the technical, managerial, and financial capacity of the water system. The procedures that have been completed to date are population projections, sizing and evaluating pressure and bladder tanks, standard operating and maintenance procedures, standard operating and maintenance procedures for public water systems served by wells, standard operating procedures to control bacteriological contamination for chlorinated water systems, evaluation of well, well pump, and aquifer capacity for consolidated formations, and procedures for calculating the saturation index. The SWRO is also implementing the use of Geographical Information System (GIS) in evaluating TMF Capacity.

III. Engineering Contract Services

A portion of the 2% set aside of the DWSRF fund is used for engineering contract services (engineering report studies) for small, incorporated water systems in need of improving TMF capacity. The needs are based primarily on compliance information and infrastructure conditions and capacity, along with the willingness of the systems to look at consolidation options, whether physical and/or operational/managerial. Small system infrastructure problems are most commonly related to lack of financial planning and operation and maintenance, and, in most cases, are in fact the cause for non-compliance. Engineering contract services provide systems with the funding to have an entire system evaluation considering all options including those with nearby water systems. This program seems to be very effective in eliminating some water systems that have been Significant Non-Compliers (SNCs). Water systems that apply with the intent to benefit another system(s) obtain priority points in the application process for the problems associated with the other system(s) (e.g., a public water supply district expanding to take over operation and maintenance of a mobile home park water system in need).

The Contract for Engineering Services also assists small water systems with obtaining funding for project development, as there is a requirement for systems to apply to the Water & Wastewater Review Committee (MWWRC) for project development funding. The MWWRC is comprised of all the state & federal funding agencies within Missouri and includes MoDNR's DWSRF Loan Program, MoDNR PDWP's Rural Grant and Loan Program, the Missouri Department of Economic Development's Community Development Block Program, and the U.S. Department of Agriculture's Rural Development Program. Uses of the money may include consolidating with another system, upgrading the source, treatment, storage, and distribution systems, and other measures to bring the system into TMF compliance. The MWWRC meet twice per month to discuss all project applicants' needs and possible funding options to best fit those needs.

There were 39 small water systems funded through Engineering Report Services from 1999 to 2001. Of the 39 systems, 11 systems have applied and been funded by the MWWRC for Project Development and approximately fifteen (15) are currently being evaluated for project development funding. Follow up is currently being conducted on systems that have not applied to the MWWRC for project development. There were 13 systems funded in 2002. This Program has resulted in many small water systems with compliance problems connecting to larger viable water systems, the formation of regional water systems to eliminate existing small systems with significant non-compliance problems, and small systems obtaining managerial and financial capacity to address their technical needs.

With this funding, many small water systems move forward to make necessary improvements that otherwise would not be feasible.

IV. Technical Assistance Providers

About 90% of the public water systems in Missouri have a population of 3,300 or less. Small public water systems are most likely to need assistance to develop TMF Capacity. The PDWP and the Regional Offices do not have the resources available to perform all the functions of the Strategy alone, and shares a large part of the workload with the following technical assistance provider to assist the small systems:

- Missouri Rural Water Association
- Midwest Assistance Program
- Missouri Public Service Commission - Private Systems
- Missouri Section American Water Works Association
- MDNR Office of Environmental Assistance
 - a. Operator certification
 - b. Financial analysis
 - c. Environmental Management Institute Board/council member training

The assistance provided by these organizations includes, but is not limited to, on-site assistance; board member meetings; operator and board member training; financial capacity assistance and rate setting; assisting with grant and loan applications; regionalization efforts; and educational outreach to help improve capacity. These organizations have augmented efforts, particularly in the areas of technical assistance, rate determination, and grant and loan application writing. They have provided a valuable asset by increasing the amount of technical assistance to significant noncompliers in dealing with that noncompliance. These organizations have worked well with PDWP and Regional Office staff in identifying and finding solutions for issues of noncompliance. It is important this relationship with the assistance water organizations continues in the future to increase the ability to provide outreach and, in some cases, develop better working relationships with the regulated community due to the fact that the assistance organizations are non-regulatory entities. Contractual resources are necessary for this continued support.

A. MoDNR Environmental Assistance Office (EAO)

A portion of the PDWP DWSRF set-aside funds are used to fund positions in the department's Environmental Assistance Office (EAO). The EAO provides assistance with financial capacity, Show-me Ratemaker, technical and managerial capacity, board member training, and operator certification. The Show-me Ratemaker Software and user charge analysis services, developed and performed by EAO, serves as the financial capacity assessment tool and assists compliant and non-compliant systems with planning for current and future needs. Show-me

Ratemaker Workshops have been held throughout Missouri. Several regional technical assistance organizations have adopted the Show-me Ratemaker as their standard or primary tool for doing user charge analyses for the water and sewer systems they assist. States and other organizations have begun to sponsor Show-me Ratemaker workshops.

Since the fall of 2001, at the request of sponsors around the country, the EAO has conducted 13 workshops for about 400 people in and for the state of Missouri, over 165 people in the states of New York, Colorado, New Mexico and Florida, and several organizations that provide user charge analysis services from the southeast to the western United States. Several other organizations in the Northeast and the Midwest are currently planning workshops as well. The Show-me Ratemaker software may be on its way to becoming the national standard ratemaking software for smaller systems with fairly simple rate structures.

Education is provided to managers and board members to enhance their knowledge of TMF Capacity and their responsibility as managers to make certain water systems have the necessary technical, managerial, and financial capacity to continue to provide safe water. The Environmental Management Institute (EMI), offered by the department's EAO, is basically TMF training for municipal board members and other decision makers on a broad range of environmental issues, especially concentrating on water and wastewater management, funding, rate setting and related issues. A binder of information related to Capacity Development and other related topics is provided to each attendee of the EMI Workshops. The EMI received the Governor's Award for Quality and Productivity in 1999 and was recognized as a semi-finalist in 1998 and 1999 for the Innovations Award of the Council of State Governments. EMI sessions consistently receive glowing reviews from participants on its quality and usefulness. Since implementation of Capacity Development in August of 2000, there have been eleven EMI workshops; total attendance 286. Four more sessions are scheduled from Sept - Nov 2002.

The Department of Economic Development's Community Development Block Grant Program has established a scholarship program to fund water system managers and community leaders with free EMI attendance and associated costs. The EAO and PDWP will continue to look for innovative ways to encourage partnerships and resource sharing between agencies and water systems. One possibility for future implementation is to provide price breaks for systems that bring another system to a training program. Continuing Education Units are provided to water systems for Capacity Development training and associated training.

The EAO also offers a "do-it yourself" version of the TMF Capacity checklist developed from PDWP's existing system TMF Checklist. Water systems use this to self-assess their capacity and find what they need to improve upon.

The Show-me Rate Maker Software, TMF Capacity Checklist, EMI Workshop Information, and other services provided by the EAO are located on the department's Internet site at <http://www.dnr.state.mo.us/homednr.htm> and may be accessed directly from the EAO Internet site at <http://www.dnr.state.mo.us/oac/lgov.htm>. The Tap into DNR newsletter, which is distributed quarterly to community leaders, contains at least one article related to improving Capacity Development in every issue.

The department's Operator Certification Program has incorporated TMF Capacity Rule training into Operator Certification training program. To date, there have been 15 TMF Capacity training opportunities provided to water systems under the Operator Certification Program. Continuing Education Units (CEUs) are offered for attendance at Capacity Development related training in order for operators to maintain their Operator Certification License. All of the assisting agencies and organizations offer CEUs as part of their training programs, which encourages and appears to increase attendance.

B. Missouri Rural Water Association (MRWA)

The PDWP and the Missouri Rural Water Association (MRWA) have a good working relationship to help assist water systems across Missouri. MRWA is very active in helping systems on-site and off-site in building water system capacity. Since 1966, the Missouri Rural Water Association (MRWA) has provided on-site training and technical assistance to Missouri water and wastewater providers. Since implementation of Capacity Development in late 2000, some of the training emphasis of MRWA has shifted to more management and or financial issues with little change in the on-site technical assistance aspect of the organization. In regard to TMF type activities, since January 1, 2001 MRWA has:

- Hosted 26 one-day workshops, geographically spread throughout the state with nearly 700 attendees. Sample titles of those workshops included: *Public Notification, Basic Computer Skills, Water Distribution Operations, Water System Safety*, and others. Six of the workshops were entitled "*Capacity Development*" and were specifically tailored to introduce system personnel to the concept of TMF. MRWA is now entering the second phase of this effort with a series of workshops entitled "*Advancing Capacity Development*" planned. In these workshops, attendees actually begin to perform tasks such as rate setting, creating organizational charts, etc.
- Hosted 10 "Board and Council Training Sessions", geographically spread throughout the state with 126 total attendees. These sessions, held in the evening covered such topics as compliance with Missouri law, security issues, rate setting, and water regulations.

- In addition to these one-day conferences, MRWA annually hosts its Annual Technical Conference in Springfield, it's Fall Operations Symposium at the Lake of the Ozarks, and it's Office Professionals Seminar, also at the Lake of the Ozarks. These are all multi day sessions with approximate total attendance at these events since January 1, 2001 of 1650. Some sample training sessions from those meetings would be *Introduction to GASB 34*, *Introduction to Show-Me Ratemaker*, *Public Notification Requirements*, *Basic Math*, etc.
- MRWA has established its website <http://www.moruralwater.org> as a source for information on a wide variety of topics and issues with links to Missouri regulatory agencies.
- MRWA has established a weekly electronic newsletter with a current subscription list of nearly 1200 users. This is used to provide information on topics and issues of interest to Missouri water suppliers.
- MRWA publishes both magazine and a paper newsletter on a regular basis with a subscription base of nearly 2000. Sample articles dealing with TMF issues recently would be "*Keeping your Computer Ship-Shape*", "*Randy's Basic Water Boot-Camp: Bacteriological Sampling*", "*What is Pump Cavitation?*" and others.
- On the technical side, MRWA's three water techs (Circuit Riders) are required to provide at least 35 on-site technical assistance visits each to Missouri water systems monthly. Since January 1, 2001, MRWA Circuit Riders have made approximately 1680 on-site technical assistance calls to Missouri water systems. (Note: MRWA had two Circuit Riders throughout 2001 who made 840 on-site TA stops. A third Circuit Rider was added in 2002 with 840 on-site TA visits to date in 2002)
- There are plans for over 20 one-day training sessions in the next 12 months. Sample topics include, "*New Drinking Water Regs*", "*Advancing Capacity Development*", "*Drinking Water Monitoring*", "*Groundwater Treatment*", "*Small System Operations*", and others. There will be additional Board and Council training added to MRWA's existing Board & Council Training Schedule.

C. Midwest Assistance Program (MAP)

Likewise, PDWP has enjoyed excellent working relationships with the staff of the Midwest Assistance Program (MAP). MAP has provided assistance to small public water systems in Missouri as well as neighboring states for many years. They have incorporated technical, managerial, and financial assistance into their work with privately-owned as well as publicly-owned water systems. PDWP routinely provides MAP with lists of water systems in need of assistance, which

MAP staff uses to plan and prioritize their efforts. MAP's assistance includes the following: facilitating water systems with loan/grant applications, developing rate structures, evaluating community water system TMF Capacity, preparing emergency management plans, providing operator training on regulatory requirements, negotiating utility water purchase/regionalization projects, conducting needs assessments, conducting board member training, evaluating operation and maintenance, assisting utility staffing and start-up plans, monitoring construction projects, and facilitating regionalization efforts and education programs.

D. American Water Works Association (AWWA)

The AWWA also provides outreach and assistance primarily to medium and large water systems. The PDWP has published Capacity Development articles in several AWWA publications and incorporated training into the AWWA conferences. AWWA incorporates Capacity Development into their training programs for operators and managers. Members of AWWA consist of many consulting firms, medium and large water systems, and equipment providers which are not likely to be reached by other assistance organizations.

V. Outreach

The PDWP and assistance agencies/organizations have been providing public education and outreach to the public and to water systems even prior to implementation. There have been rulemaking stakeholder meetings, open public meetings, technical bulletins, articles in water publications, internet links between assistance organizations and the department, training on upcoming rules and regulations and the increase in costs associated with meeting new requirements, etc.

Consumer Confidence Reports (CCR) are one way systems may better educate their consumers and make them aware of necessary improvements and costs associated to meet current and future requirements. Systems are required to make a CCR available annually to the public, which provides consumers with knowledge of the quality of water and services being provided. In essence, CCRs increase management accountability for delivery of safe water. It also provides the water system a means to educate and convince the public of the needs for sufficient revenue to operation and maintain their water system to continue to provide safe water. The CCR is also a way for the public to be educated on upcoming rules and regulations that will impact water systems and require capital improvements, thus justifying increasing water rates. The PDWP will continue to assist water systems with CCR development to ensure accurate and relevant information is included in the public's knowledge.

Other public outreach and continued education programs include Earth Day functions, Capitol Environmental Kid's Day, Missouri State Fair, Safe Drinking Water Week, visits to schools, etc. Participation in these events has allowed the PDWP to display information to enhance public knowledge of the importance of safe water and protecting and preserving our natural water resources.

VI. Summary

Overall success of implementation of the Strategy has proven to be in the area of manager training and financial assistance. The general thought that the cost of operation was all that was needed to be incorporated in the user's water bill is now in the past. Managers are beginning to see the definite need and benefit to include the cost of operation, maintenance, and future planning needs into the water user charge. Without having financial capacity, it is nearly impossible for a water system to receive state or federal funding. And, without the managerial decision makers planning for the necessary technical upgrades, water systems would not be adequately operated and maintained.

The biggest challenge is reaching the smallest systems such as the mobile home parks, businesses, and schools. The system owners' primary business is not selling water, even though they are considered the owner of a water system and are required to supply safe water. They often don't think about planning for upgrades, taking samples, and maintaining the water system and often fall into non-compliance repeatedly. Without penalties or some other means to significantly change their mind-set about continuously supplying safe water, the assistance task will be endless and seemingly non-effective.

The PDWP will continue to provide information in technical bulletins, fact sheets, drinking water publications, training courses, public outreach activities, and will continue working with the assisting organizations to keep the operators informed of rule status and the need for TMF Capacity.

Making Report Available to the Public

The department will make this report available to the public through Internet, Internet links with assisting organizations (e.g., MRWA, EPA, EAO, etc.), notify operators through the Water & Wastewater Digest, publications such as On-TAP, and other assistance agency publications. The department will also make notification via a press release describing how to obtain a copy of this report.